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The available invention concerns an oil separator, with a separating element, the separating element surrounding collector for the oil separated from air, a supply line, which lead to the upcurrent side of the separating element, and an exhaust air duct, which lead away of the Abstromseite of the separating element. Such oil separators are in particular intended for the exhaust of the cylinder crankcase of a lifting cylinder internal-combustion engine. Each internal-combustion engine dismisses a part of its incineration gases over the piston rings into the cylinder crankcase, which is called Blow By gases. In the cylinder crankcase these Blow By gases take up then lubricating oil nebulas, which must be separated again. Here oil separators are used. In addition oil separators serve for the removal of oil foaming, which can occur for example with high numbers of revolutions of the internal-combustion engine. With strong oil foaming the danger exists that within the oil separator too much separated oil accumulates and the lubricating film in the cylinder crankcase tears, so that it can come to a damage of the internal-combustion engine. Before this background it is task of the available invention to conceive an oil separator which closes the separating function during excessive oil foaming and which is in a simple manner realizable. This task is solved thereby that the exhaust air duct is designed as a tubing down-handing into the collector and that in the collector a flotation chamber is intended, which with reaching a certain climbing height the tubing locks. By this characteristic combination the oil separator can become closed during strong oil foaming, so that within the collector always only as much separated oil is collected that the lubricating of the internal-combustion engine is further ensured. Finally by the fact it is also prevented that from the oil separator air can withdraw also to high oil portions or oil foam. The flotation chamber at least partly is favourably within the tubing. Thus a structural unit of tubing and flotation chamber is realized. Alternatively the flotation chamber could be however also at least partly outside of the tubing and/or around the tubing arranged. In a special execution form of the invention the tubing within its lower range exhibits a number of discharge ports. The discharge ports facilitate an occurring of the air of the Abstromseite of the separating element into the exhaust air duct. Particularly preferentially the discharge ports participate designed as lengthwise slots, which are parallel to the axle of the tubing arranged. By these discharge ports air cleaned by oil can if the flotation chamber is completely within the tubing still the inside the tubing arrives and escapes upward. If the surface of oil continues to rise within the collector, then moves in the tubing flotation chambers present further upward and locks thereby the discharge ports so that the oil separator is closed. The tubing within its lower range favourably exhibits a larger diameter than within its upper range. With this characteristic the effect that the flotation chamber locks the tubing with reaching a certain climbing height, is supported likewise. Also this characteristic considers to the circumstance the fact that the separated oil collected in the collector forms a kind sump and therefore in the lower range of the collector is somewhat more viscous than in the upper range. The flotation chamber within the tubing can be trained for example as ball. Thus the danger that the flotation chamber could tilt concerning the tubing, is minimized. In accordance with a further training of the invention the separating element is designed as the tubing of surrounding hollow cylinders, whereby the upcurrent side on the exterior and the Abstromseite are on the inside of the hollow cylinder. Finally

the collector should exhibit an expiration for the oil separated from air. Because by the expiration from air separated and in the collector the collected oil can arrive back into the cylinder crankcase, whereby the expiration can be opened continuously or intermittent. Running off the oil from the expiration is supported with the pressure of oil-satisfied air lining up at the supply line. The available invention is more near described with reference to the following design figure. The figure shows a simplified representation of an oil separator according to invention. The oil separator essentially consists of a separating element 1, which is surrounded by a collector 2. The separating element 1 is a cylindrically trained filter or Gestrickabscheider, whereby its upcurrent side lies outside and its Abstromseite lies inside. With its circular surface area the separating element 1 stands on the soil 3 of the collector 2 and with its likewise circular cover surface rests the separating element 1 against the cover 4 of the collector 2. Laterally at the collector 2 a supply line 5 is attached, which leads from the cylinder crankcase of a lifting cylinder internal-combustion engine to the upcurrent side of the separating element 1. And at the cover 4 of the collector 2 about centrically an exhaust air duct occurs 6 the collector 2. The free end of the exhaust air duct 6 is designed as a perpendicularly standing, almost hollowcylindrical tubing 7 reaching up to the soil 3 of the collector 2. The tubing 7 exhibits a number of evenly discharge ports 8 distributed over its extent within its lower range. The discharge ports 8 are trained slot-like and extend parallel to the axle of the tubing 7. Inside the tubing 7 is a spherical flotation chamber 9, which is depending upon quantity of the oil in an appropriate climbing height, collected separated, in the collector 2 and. In addition at the soil 3 of the collector 2 an expiration 10 is intended to the cylinder crankcase, which lets the separated and collected oil run off continuously. During the enterprise oil-satisfied air arrives to the lifting cylinder internal-combustion engine and/or oil-foamed air for the upcurrent side of the separating element 1 over the supply line 5. The oil portion is separated there and moves to the soil 3 of the collector 2, while the air portion to the Abstromseite of the separating element 1 again withdraws and by the discharge ports 8 into the tubing 7 and from the tubing 7 finally into the exhaust air duct 6 arrived. During a strongly increased separation of oil now the surface of oil rises within the collector 2, so that the spherical flotation chamber 9 due to its lift within the tubing 7 moves upward, until that the flotation chamber 9 locks the discharge ports 8 in the tubing 7 with reaching a certain climbing height. This climbing height corresponds the maximally permissible height of the surface of oil. Further oil-satisfied air lining up under pressure at the supply line 5 affects now primarily the expiration 10 and accelerates thus a running off of the separated and collected oil from the collector 2. As soon as the surface of oil falls again, the spherical flotation chamber 9 within the tubing 7 moves again downward, so that it releases the discharge ports 8 of the tubing 7 again.

* Translation based on German text obtain from www.delphion.com on September 13, 2004